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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional)	
		5308-311	
I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office via facsimile number 571-273-8300 on October 20, 2005.		Application Number	Filed
		10/659,108	09/09/2003
Signature <u><i>Susan E. Freedman</i></u>		First Named Inventor	
		Gerald H. Negley	
Typed or printed name <u>Susan E. Freedman</u>		Art Unit	Examiner
		2814	Thao X. Le
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.			
This request is being filed with a notice of appeal.			
The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.			
I am the		<u><i>Mitchell S. Bigel</i></u>	
<input type="checkbox"/> applicant/inventor.		Signature	
<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)		Mitchell S. Bigel	
<input checked="" type="checkbox"/> attorney or agent of record.		Typed or printed name	
Registration number <u>29,614</u>		919-854-1400	
		Telephone number	
<input type="checkbox"/> attorney or agent acting under 37 CFR 1.34.		October 20, 2005	
Registration number if acting under 37 CFR 1.34 _____		Date	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.			
<input checked="" type="checkbox"/> Total of <u>1</u> forms are submitted.			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AP, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**RESPONSE UNDER 37 C.F.R. 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2814**

Attorney Docket No. 5308-311

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Gerald H. Negley et al.
Application Serial No.: 10/659,108
Filed: September 9, 2003

Confirmation No.: 4336
Group Art Unit: 2814
Examiner: Thao X. Le

For: **SOLID METAL BLOCK MOUNTING SUBSTRATES FOR SEMICONDUCTOR
LIGHT EMITTING DEVICES**

October 20, 2005

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**REASONS IN SUPPORT OF APPLICANTS'
PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Sir:

This document is submitted in support of the Pre-Appeal Brief Request for Review filed concurrently with a Notice of Appeal in compliance with 37 C.F.R. 41.31 and with the rules set out in the OG of July 12, 2005 for the New Appeal Brief Conference Pilot Program.

No fee or extension of time is believed due for this request. However, if any fee or extension of time for this request is required, Applicants request that this be considered a petition therefor. The Commissioner is hereby authorized to charge any additional fee, which may be required, or credit any refund, to our Deposit Account No. 09-0461.

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REMARKS

Applicants hereby request a Pre-Appeal Brief Review (hereinafter "Request") of the claims finally rejected in the final Office Action mailed September 23, 2005. All of the claims stand rejected under 35 USC §103(a) over U.S. Patent 6,480,389 to Shie et al. in view of U.S. Published Patent Application 2004/0041757 to Yang et al. Applicants respectfully submit that the primary reference, Shie et al., explicitly teaches away from many of the recitations of the pending claims, and that even if the two references are combined, the claim recitations simply are not met. Therefore, Applicants respectfully request review of the present application by an appeal conference prior to the filing of an Appeal Brief. In the interest of brevity, and without waiving the right to argue additional grounds should this Request be denied, Applicants will merely point out the Examiner's omissions of one or more essential elements need for a *prima facie* rejection.

Pending independent device Claim 3 recites:

3. A mounting substrate for a semiconductor light emitting device comprising:
a solid aluminum block including a cavity in a face thereof that is configured for mounting a semiconductor light emitting device therein;
and
a conformal insulating coating comprising aluminum oxide on a surface of the solid aluminum block, and in the cavity; and
first and second spaced apart conductive traces on the conformal insulating coating in the cavity that are configured for connection to a semiconductor light emitting device. (Emphasis added.)

Remaining independent Claim 15 also includes the above-underlined recitations. Accordingly, both independent Claims 3 and 15 clearly recite that the conformal aluminum oxide coating is in the cavity and that the first and second spaced apart conductive traces are on the conformal aluminum oxide coating in the cavity.

These structural recitations are not described in Shie et al. and, in fact, Shie et al. teaches away from these structural recitations. In particular, Shie et al. Column 3, lines 4-25 states:

Further, a layer of aluminum oxide (alumina) 14 functioned as an insulating layer is firstly formed on the upper surface and the outer surface of the wall 16, except on the inner surfaces of the cup-shaped portion 11, and then a layer of electrode material 15, preferably a light reflective metal such as silver, gold or aluminum, is deposited to cover the layer of alumina 14 and, in addition, to cover the inner surfaces of the cup-shaped portion 11.

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In specific, the layer of electrode material 15 is formed on the layer of alumina 14 and on all of the inner surfaces of the cup-shaped portion 11. In this state, by means of an adequate processing, a portion of electrode material 15 covered on upper inner peripheral portion of the cup-shaped portion 11 and a portion of alumina 14 covered on the same are removed so as to separate the electrode material 15 into two parts, wherein the one part, referred to as an electrode 15b, on all of the inner surfaces of the cup-shaped portion 11 is substantially connected to the metallic substrate 10, and the other part, referred to as an electrode 15a, on the alumina 14 functioned as the insulating layer between the electrode 15a and the metallic substrate 10 can be used as an independent external electrode of the metallic substrate 10. (Emphasis added.)

This passage makes it clear that, in Shie et al., the aluminum oxide coating is not formed in the cavity, whereas Claims 3 and 15 clearly recite that the aluminum oxide coating is formed in the cavity. This passage also makes it clear that the first electrode 15b is formed in the cavity directly on the metallic substrate, whereas Claims 3 and 15 clearly recite that the first conductive trace is formed in the cavity on the conformal insulating coating. Finally, this passage also makes it clear that the second electrode 15a is formed on the aluminum oxide coating 14 outside the cavity, whereas Claims 3 and 15 clearly recite that the second conductive trace is also formed on the conformal insulating coating in the cavity. Accordingly, this passage of Shie et al., along with Figures 1-3 of Shie et al., clearly teach away from many of the recitations of independent Claims 3 and 15.

In an attempt to supply the missing teaching, the Official Action cited Yang et al. Assume, for the sake of argument that Yang et al. discloses a mounting substrate 43 that can be aluminum, and an insulating aluminum oxide layer 42, as stated at Page 3 of the final Official Action. However, in Yang et al., the LED 71 stands away from the metal plate 43. Metal plate 43 is flat, and there is no cavity in the metal plate 43 in which a semiconductor light emitting device is mounted. Rather, as noted in Paragraph [0023] of Yang et al., the insulating layer 42 provides an insulating layer in the through holes of the metal plate:

Inside the substrate 40 a metal plate 43 comprising a plurality of holes, whereas there forms the protective insulating layer 42 on the holes of the metal plate 43 and on the upper and lower surface of the metal plate 43.

Accordingly, the combination of Shie et al. with Yang et al. would not disclose the above-underlined recitations of Claims 3 and 15, because Yang et al. does not disclose a cavity, a conformal insulating coating in the cavity or conductive traces on the coating in the cavity. Moreover, it would not be obvious to combine Yang et al. with Shie et al. to provide

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a conformal insulating coating in the cavity and conductive traces on the coating in the cavity in direct contradiction to the explicit teachings of Shie et al. Finally, even if these references were somehow combined, the combination might provide an insulating layer in the through holes of a metal plate, but would not describe or suggest a conformal insulating coating in the cavity and conductive traces on the coating in the cavity.

The Official Action has combined Shie et al. and Yang et al. despite the clear teachings away in Shie et al. Contrary to the requirements for establishing a *prima facie* case of obviousness, the references have been combined despite the teaching away in the primary reference as to the desirability of the combination. Moreover, even if combined, the claim recitations simply would not be described or suggested, as was shown above. The combination of elements recited in Claims 1 and 15 are only taught by the present application. For at least these reasons, a *prima facie* case of obviousness has not been made as to independent Claims 3 and 15.

In the "Response to Arguments" section of the final Office Action (Page 8), the final Office action cited case law stating that the test for obviousness is what the combined teachings of the references would have suggested to those having skill in the art, and the impermissibility of attacking references individually where the rejections are based on combinations of references. However, Applicants have shown above that the primary reference explicitly teaches away from the claimed invention and that, even if the claimed references were combined, the claim recitations were not met. The "Response to Arguments" section actually concludes, at the bottom of Page 8:

Thus, prior arts must be considered in its entirety, including disclosures that teach away from the claims, MPEP §2143.01-02.

Yet, Applicants respectfully submit that the final Office Action ignores the prior art in its entirety, including disclosures that teach away from the claims.

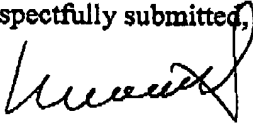
The dependent claims are patentable at least per the patentability of the independent claims from which they depend. The separate patentability of many of the independent claims will not be addressed in detail herein, for the sake of brevity, but will be addressed separately in an Appeal Brief, if necessary.

Accordingly, for at least the reasons discussed above, a *prima facie* case of obviousness has not been met, because the primary references explicitly teaches away from the claimed invention, and the primary and secondary references would not describe the

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claimed invention even if combined. Therefore, Applicants respectfully request that the present application be reviewed and reversed by the appeal conference prior to the filing of an Appeal Brief.

Respectfully submitted,


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Susan E. Freedman

Date of Signature: October 20, 2005